

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY

MEETING OF MARCH 15, 1938

A regular meeting of the New York Entomological Society was held on March 15, 1938, in Roosevelt Memorial; President Moore in the chair with about fifty members and visitors present.

Mr. Irvin Granek, of 367 Vernon Ave., Brooklyn, N. Y., was proposed for active membership.

The program committee reported that Dr. Melander would show some pictures of his recent trips to Florida at the next meeting.

Dr. Albert Hartzell, the speaker of the evening, then addressed the Society on "The Peach Yellows."

LUCY W. CLAUSEN, *Secretary*.

MEETING OF APRIL 5, 1938

A regular meeting of the New York Entomological Society was held on April 5, 1938, in Roosevelt Memorial; Vice-President Spieth in the chair with about thirty members and visitors present.

Mr. Irvin Granek was elected to active membership.

The program of the evening of notes by members was opened by Dr. Melander with colored moving pictures of his recent trip to Florida. A general discussion by members concluded the evening's meeting.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF APRIL 19, 1938

A regular meeting of the New York Entomological Society was held on April 19, 1938, in Roosevelt Memorial; President Moore in the chair with about thirty-five members and visitors present.

A meeting of the Executive Committee was scheduled for May 3 to discuss a letter from the Academy relative to contributions for mailing privileges enjoyed by the members of the New York Entomological Society.

Dr. Leonard called the attention of the Society to a testimonial dinner to be given in honor of Dr. E. O. Johannsen on April 30.

A motion was made and seconded that Dr. Moore write a congratulatory note prior to the 30th, upon the occasion of Dr. Johannsen's retirement.

Mr. William Trager, the speaker of the evening, then talked upon "Ticks and Disease Transmission" an abstract of which follows.

TICKS AND DISEASE TRANSMISSION

The life history of the common American dog tick, *Dermacentor variabilis*, was described as typical of the life cycle of most of the species of ixodid ticks. Since ticks transmit many diseases of man, and of domestic and wild animals, it was possible to consider in detail only three of these. Tularemia,

disease caused by bacteria, shows no intimate relationship between the causative organism and ticks. The disease can be transmitted by other arthropods and by direct contact. Ticks heavily infected with tularemia bacteria die as a result of the infection. Canine piroplasmosis, a protozoan disease, can be transmitted only by certain species of ticks. The protozoa undergo a definite developmental cycle in the tick, they do the tick no harm whatever, and they are hereditarily transmitted from one generation of ticks to another. Similar close relationships obtain between ticks and the rickettsiæ of Rocky Mountain spotted fever. The ticks responsible for the transmission of this disease are, in the western United States, *Dermacentor andersoni*, and, in the eastern United States, *Dermacentor variabilis*. In the tick host it is necessary to distinguish between the rickettsiæ of Rocky Mountain spotted fever, which very often occur intranuclearly, and the harmless rickettsiæ, found in certain ticks, which are intracellular but never intranuclear. All ticks of the species *D. variabilis* also contain so-called symbionts, coccoid bodies with a clear center which, in larvae and nymphs occur only in certain alimentary tract cells. In adults the coccoid bodies are found in all the alimentary tract cells and in the ovaries of the female. Besides transmitting various diseases, engorging female ticks produce directly two pathological conditions: (1) tick paralysis, due possibly to a neuro-toxin; (2) tick-host anemia, a secondary anemia due to loss of blood. It has recently been found that some animals develop a true acquired immunity against the larvæ of *D. variabilis*. This immunity lasts about 3 months.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF MAY 3, 1938

A regular meeting of the New York Entomological Society was held on May 3, 1938, in the American Museum of Natural History; President Moore in the chair with fifty members and visitors present.

A decision was made that the next and last meeting of the season would be in the nature of a farewell dinner to Mr. A. J. Mutchler.

The speaker of the evening, Dr. A. Glenn Richards, Jr., spoke upon "Some Aspects of Sterility in Insects," an abstract of which follows.

SOME ASPECTS OF STERILITY IN INSECTS

(Author's Abstract)

The concept of a *breeding unit* in nature has only partial validity because all degrees of isolation are found only some of which are based on or include sterility and because of the numerous exceptions to the idea of a breeding unit. Sterility was then defined as an inability to produce an indefinite number of generations of viable zygotes. Nevertheless there is a general broad parallelism of physiological affinity and morphological similarity and also a general correlation between degree of fertility and isolation.

One of the types of sterility is that of a vigorous soma for a sterile individual. This is the type that sometimes shows the phenomenon of hybrid vigor in a sterile individual. In some cases this sterility may be of a gross chromosomal nature but in insects at least the commoner form of sterility is genic in nature and due to a complex unbalanced genetic content of the viable zygote.

Examples were given from Stern's work on translocation stocks of *Drosophila melanogaster* which show various manifestations of hybrid sterility on outcrossing to normal stocks. It was pointed out, however, that these stocks could exist only in pure cultures and would soon be eliminated in mixed cultures or in nature.

Another of the examples given was that of the two physiological races of *Drosophila pseudoobscura* in which it has been shown by Dobzhansky that fertility of the males is dependent on the segregation into such individuals (obtained by backcrossing F_1 hybrid females to parental stock males) of all or almost all the chromosomes from one or the other of the two parental races, and that chromosomal pairing is not the direct cause of the failure of spermatogenesis.

These cases lead to questioning whether the germ cells are inherently incapable of normal development or whether there is some somatic deficiency that affects the development of the gonads. This question has been fairly well answered by transplants which show that gonads, both normal and sterile, undergo autonomous development in *Drosophila melanogaster* and *D. pseudoobscura*. The single exception is superfemale ovaries in normal hosts giving functional gametes which show non-disjunction and other abnormalities whereas superfemales themselves never produce functional gametes.

The question of a possible time effect and the transplants having been performed too late in ontogeny seem unlikely at least for *D. pseudoobscura* because primary spermatocytes are produced throughout pupal and much of larval life, the disruptive processes setting in at a later stage of spermatogenesis. It would seem that if a somatic effect on the gonads is to take place it would be effective also at relatively late stages in ontogeny since normal appearing spermatocytes are being produced then.

In summation it was concluded that these cases of sterility must be in the nature of complex unbalanced genetic constitution. This sounds like an obvious restatement of visible phenomena in nature but at least other possibilities have been eliminated. It follows that the evolutionary origin of sterility takes place in more than one step, and that sterility is not prerequisite for divergent evolution but a by-product of that evolution. This is also upheld by statistical analyses which show that too early cross sterility would stifle evolution by isolating too small parts of populations. The view that sterility is a by-product rather than a cause of speciation is really an advantage to taxonomists because it leaves all the old value of sterility and in addition shows how the intergrades and cases where sterility is lacking may be understood without listing as inexplicable exceptions.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF MAY 17, 1938

A regular meeting of the New York Entomological Society was held on May 17, 1938, in Hotel Franconia, 20 West 72nd Street, New York City, and a dinner testimonial was given in honor of Mr. A. J. Mutchler who was retiring from the Department of Entomology of the American Museum of Natural History.

Ninety members of the Society and friends of Mr. Mutchler attended. Mr. Mutchler was made a life member of the Society.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF OCTOBER 4, 1938

A regular meeting of the New York Entomological Society was held on October 4, 1938, in the American Museum of Natural History; President Moore in the chair with fifty members and visitors present.

The meeting was of a social nature with refreshments.

The following were proposed for active membership: Miss Annette Bacon, American Museum of Natural History; Miss Alice Gray, American Museum

of Natural History; Mr. F. Snyder, John Powell Co., New York City; Dr. D. L. Collins, Cornell University, Ithaca, N. Y.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF OCTOBER 18, 1938

A regular meeting of the New York Entomological Society was held on October 18, 1938, in the American Museum of Natural History; President Moore in the chair with forty members and visitors present.

The program committee reported that at the Nov. 1 meeting there would be a discussion of notes by members on their summer collecting.

The following were elected to active membership: Miss A. Bacon, Miss A. Gray, Mr. F. Snyder, Dr. D. L. Collins.

Mr. Fred Snyder, the speaker of the evening, talked upon "Some Unusual Habits of Some Muscid Flies" an abstract of which follows.

A brief statement regarding the small number of species of flies in which the life histories are known was made.

This was followed by a discussion of the limits of the family and how phylogeny does not necessarily correspond to the progressive development of the parasitic habit from the coprophagous habit or *vice versa*.

This progression was divided into two parts, the plant progression and the animal progression. The steps in these two types were traced, various species being used as examples. Particular emphasis was placed upon the development of very limited environments, *e.g.*, birds' nests, and specific host-relationships.

Viviparity was discussed in relation to certain coprophagous muscids, and the progressive steps in the development of this habit from first instar larvæ to late fourth instar production was traced by means of certain examples.

Morphological peculiarities which particularly aid the various species in their life economy were given as were certain remarkable adult habits and especially the interesting type of hibernation which *Pyrellia serena* (Meigen) undergoes.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF NOVEMBER 1, 1938

A regular meeting of the New York Entomological Society was held on November 1, 1938, in the American Museum of Natural History; President Moore in the chair with 25 members and visitors present.

Mr. Joseph Rosenblum, 1330 Washington Ave., New York City, was proposed for active membership.

The program committee announced that Mr. Donohoe of Trenton, N. J., would speak on "Insects Found in Raisin Storages."

The meeting was then given over to members for a general discussion of field notes. Mr. W. T. Davis exhibited several boxes of specimens of cicadas and cicada killers and told of two colonies on Staten Island. According to him it is not the song of the cicada that the cicada-killer uses to locate her prey but rather her ability to quickly sense any movement of her prey.

Mr. Engelhardt exhibited a specimen of the papaya fly, *Toxotrypan curvicauda*, given to him by the owner of a papaya farm at Dayton, Florida. These insects once established are troublesome pests. The females, by means

of a long ovipositor, puncture the ripening fruit and the maggots, penetrating to the seed centers, render the fruit unpalatable. The much smaller males, according to the farmer, are not often seen and are very hard to capture.

Mr. Moennich brought some fungoid Coleoptera and talked of his experiences in collecting them.

Dr. Fox spoke of his studies upon the mantis *Ptenodera*—the average number of eggs per capsule and of the parasites of it.

Mr. Jones proudly passed for inspection a hermaphroditic specimen of the Gypsy Moth—male and female markings showing very clearly.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF NOVEMBER 15, 1938

A regular meeting of the New York Entomological Society was held on November 15, 1938, in the American Museum of Natural History; President Moore in the chair with thirty members and visitors present.

Mr. Joseph Rosenblum was elected to active membership.

The speaker of the evening, Mr. Donohoe, spoke of "Some Insects Associated with Raisin Storages."

LUCY W. CLAUSEN, *Secretary*.

MEETING OF DECEMBER 6, 1938

A regular meeting of the New York Entomological Society was held on Tuesday, December 6, 1938, in the American Museum of Natural History; President Moore in the chair with two hundred and forty members and visitors present.

Due to the large number of visitors present the reading of the minutes of the preceding meeting as well as other business was suspended.

Dr. Melander, the speaker of the evening, showed his colored motion pictures of "Who's Who among the Insects, 1938." The pictures were without doubt the best ever done in the field.

At the next meeting of the Society on December 20, 1938, Mr. F. S. Blanton was scheduled to speak on "Some Insects Affecting Narcissus and Some Methods of Control."

Mr. August Schmitt, of 389 East 151st Street, New York City, was proposed for active membership.

LUCY W. CLAUSEN, *Secretary*.

MEETING OF DECEMBER 20, 1938

A regular meeting of the New York Entomological Society was held on Tuesday, December 20, 1938, in the American Museum of Natural History; President Moore in the chair with twenty members and visitors present.

The President appointed a nominating committee of Dr. C. H. Curran, Mr. John D. Sherman, Jr., and Mr. E. L. Bell.

Mr. August Schmitt was elected to active membership.

The following were proposed for active membership: Arthur Davidoff, 725 West 172nd Street, New York City; Morris Gadol, 972 Tiffany Street, Bronx, New York City; James W. Johnston, Jr., 106 East 236th Street, New York City.

The address of the evening on "Insects Affecting Narcissus and Some Methods of Control" was delivered by Mr. F. S. Blanton. Mr. Blanton explained the method of growing narcissus for commercial purposes and pointed out how this affected control measures of the several pests. The two chief pests discussed were the bulb fly, *Merodon equestris*, and nematodes. Considerable discussion followed the address.

C. H. CURRAN, *Acting Secretary*.

